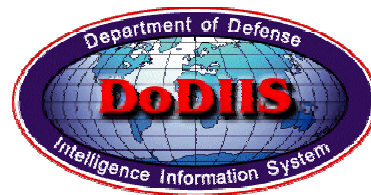




# Community Assessment of the DoDIIS Test Process



Harry VanEvery

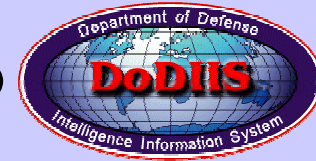
202-231-8394, [vanevery@mitre.org](mailto:vanevery@mitre.org)

30 March 2000





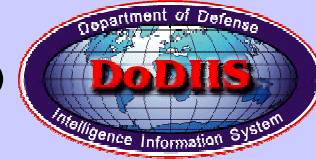
# Purpose of Brief



**Provide Status and Results from  
the Assessment Working Group  
to the  
Test Policy Oversight Council**



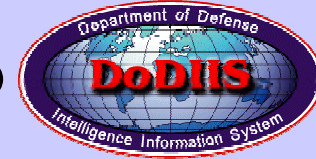
# Background



- Initiated on behalf of DMB and DIFM-I
- Concern over quality of Intelligence Mission Applications (IMAs) being fielded and impact on sites
- Community effort to assess and recommend improvements in DoDIIS test and life cycle management (LCM) processes--focus on changes needed in policy, as well as potential changes in our processes



## Key Points

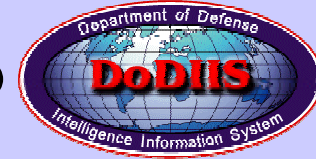


- **Community-wide effort to:**
  - Identify and document the DoDIIS test requirements.
  - Assess each phase of the DoDIIS Test Process and its adequacy to ensure the fielding of quality/interoperable information technology (IT) components.
  - Evaluate where testing should take place during the LCM process and how IT component developers (DIA, Services, Defense Agencies) fit into the DoDIIS LCM and test processes.
  - Recommend organizational roles and responsibilities across the DoDIIS test and LCM processes.
  - Recommend development, test process and funding strategy changes required to meet current and future DoDIIS test and LCM requirements.





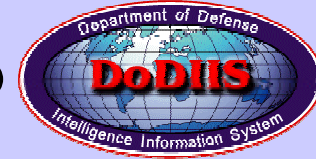
# Approach



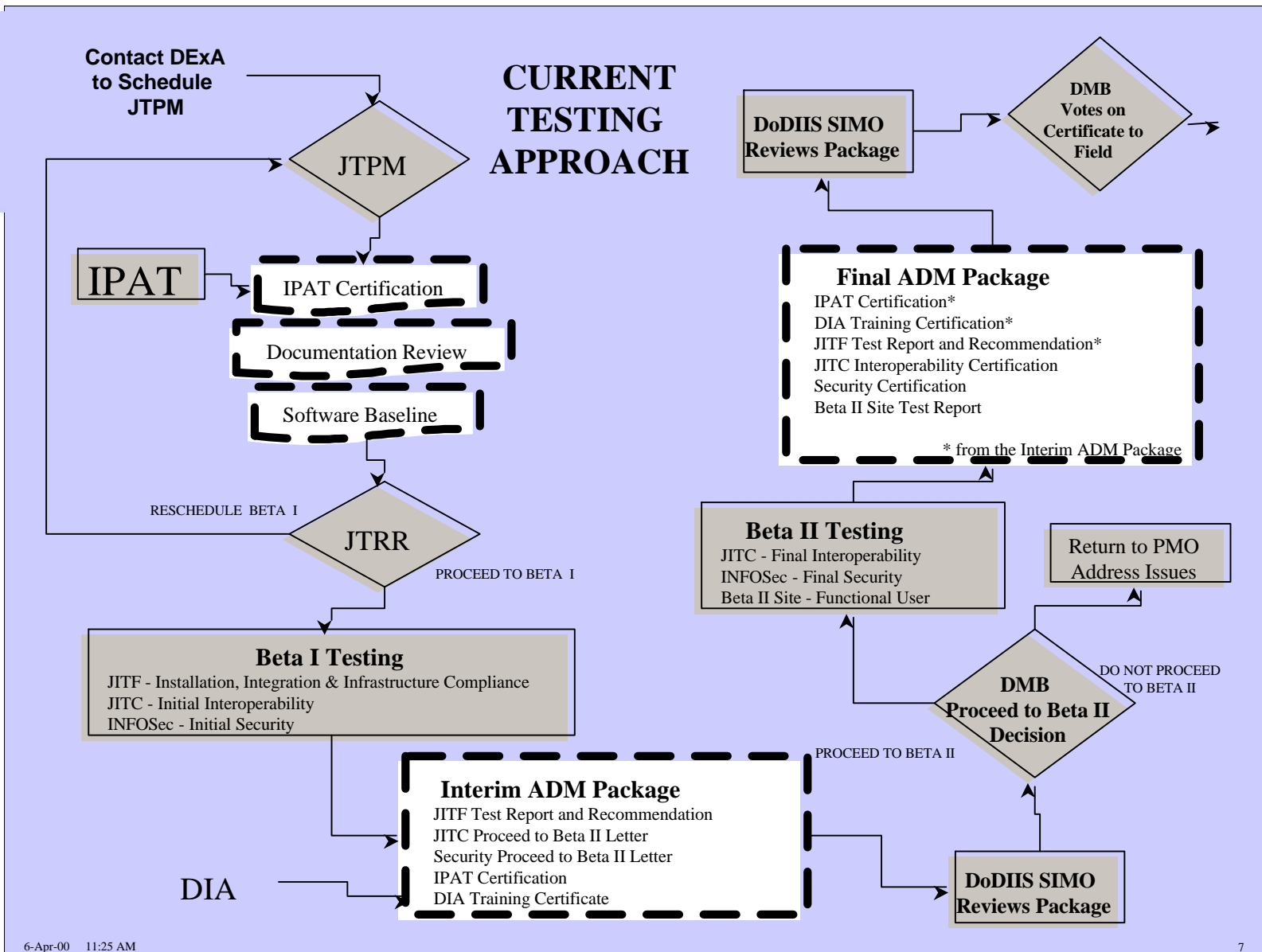
- **Senior Review Panel**
- **Assessment Working Group--Four Teams**
- **Two phases**
  - **First Phase**
    - Requirements
    - Define and describe current test process and environment
    - Define and describe other test facilities
    - Define and describe current funding strategy
  - **Second Phase**
    - Define target test environment and assess alternatives
    - Test Process and Procedures Changes
    - Identify Resource Requirements and Recommend Funding Strategy



# Schedule

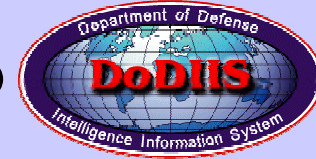


<b>20-22 Mar</b>	<b>Phase I Report--final draft</b>
<b>24 Mar</b>	<b>Draft Report sent out for SRP/AWG formal comments</b>
<b>29-30 Mar</b>	<b>TPOC review and discussions</b>
<b>5-6 Apr</b>	<b>Phase II Meeting (2B31-3D35)</b>
<b>wk of 10 Apr</b>	<b>Phase I/II review by SRP</b>
<b>16 Apr</b>	<b>Phase II review at San Diego</b>
<b>19 Apr</b>	<b>Status Report to DMB (San Diego)</b>
<b>May-Jun</b>	<b>Draft Policy, guidance and other actions from DMB</b>
<b>Jun</b>	<b>GDIP Summer Conference</b>
<b>15 Sep</b>	<b>IBES</b>





## Current Funding Strategy



### Current Approach

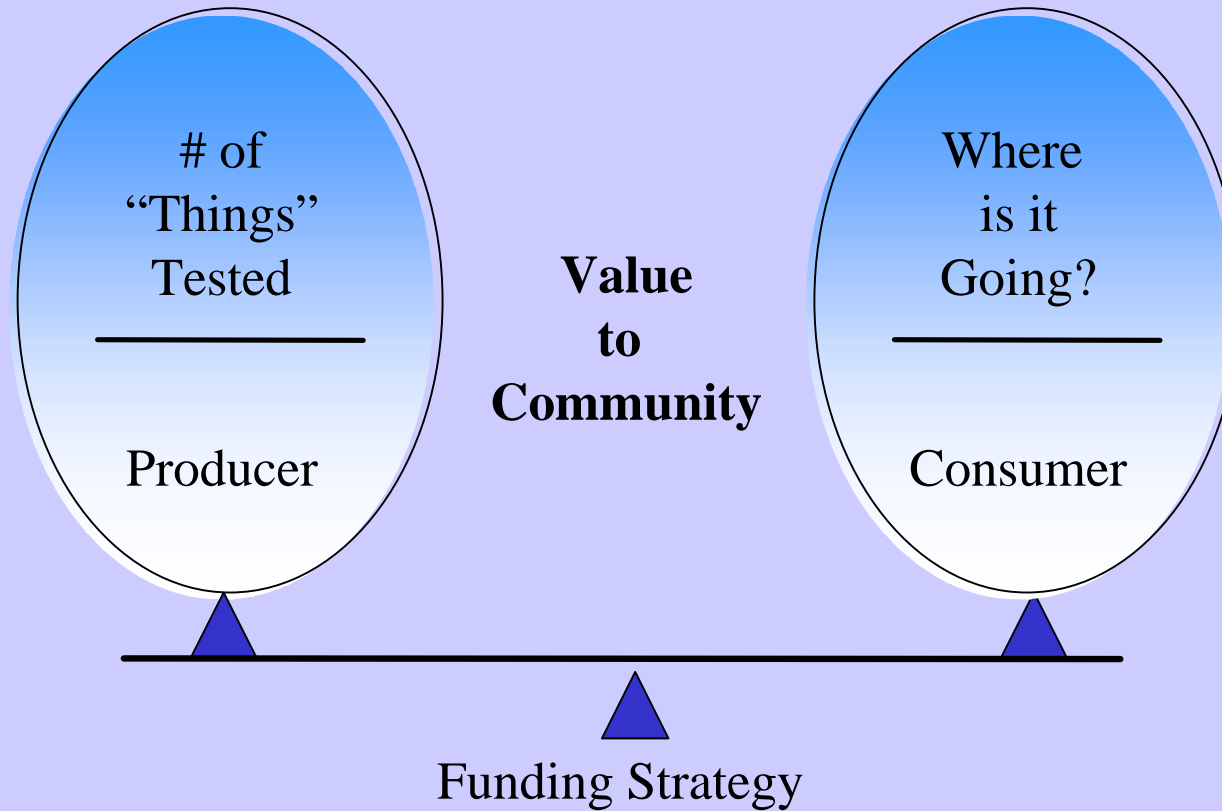
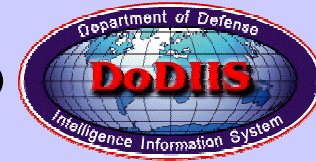
- 497th IG designated as DExA for Test and Evaluation (Jan 95)
- Funds MIPRed to JITF/JITC from DIA and Services for independent integration and interoperability testing
- Independent funding decisions = inconsistent funding levels
- PMs fund DT&E/IPAT/FAT
- Security certification funded by Agencies and Services
- Beta II test sites volunteer

### Shortfalls

- Insufficient funding in FY00 and FY01
- Central funding line FY02-07 not adequate

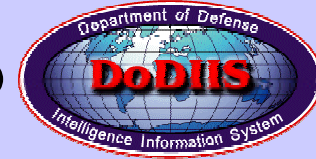


# Different Perspectives





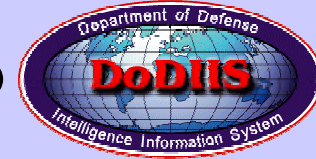
# Process Shortfalls



- **Functionality and Quality**
  - Lack of adherence to and enforcement of the DoD 5000-series and DoDIIS Instructions contributes to inconsistent software quality.
    - PMs need to implement a rigorous LCM process
    - The DoDIIS LCM Office and DMB involvement occurs too late in the process
  - Current process relies on the PM to accomplish functional testing--not working
  - Development schedules are often very aggressive
- **User and Tester Involvement**
  - Limited user involvement in definition, design and testing of IT component prior to Beta II
  - No interaction between PM and independent tester(s) prior to completion of FAT



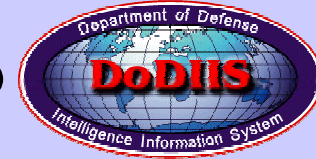
## Process Shortfalls (cont)



- **Documentation**
  - PMs do not adhere to documentation requirements specified in the DoDIIS Instructions
  - Requirements for each release of the IT component baseline is not adequately documented
  - Because system and user documentation is inadequate, testers cannot obtain the interface specifications, detailed design and performance criteria needed to develop effective test plans
- **Understanding the Process**
  - Educating the PMs and Community
  - Tailor to fit within the development strategy and testing/LCM processes
- **Beta II Testing -- needs to be standardized**
- **Funding**
  - Alternatives must be articulated to ensure adequate resources and qualified testing staff across all testing events--FAT, Beta I and II



# Requirements

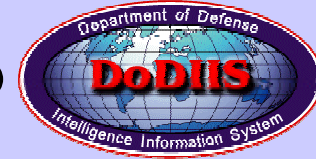


- Independent Test organization
- Independent testers involved early in design and DT&E (IPAT/FAT, Beta I), as well as OT&E (Beta II)
- Users involved throughout design and testing
- Readiness Reviews and Go/No Go recommendations at each test point
- Documentation
  - DoDIIS Test and Evaluation Master Plan (TEMP)
  - Comprehensive requirements specification is basis for ALL functional and technical testing
    - Includes traceability matrix to map ORD and requirements specification to functional implementation
    - Developer responsibility
  - Specific documentation is required at each test point





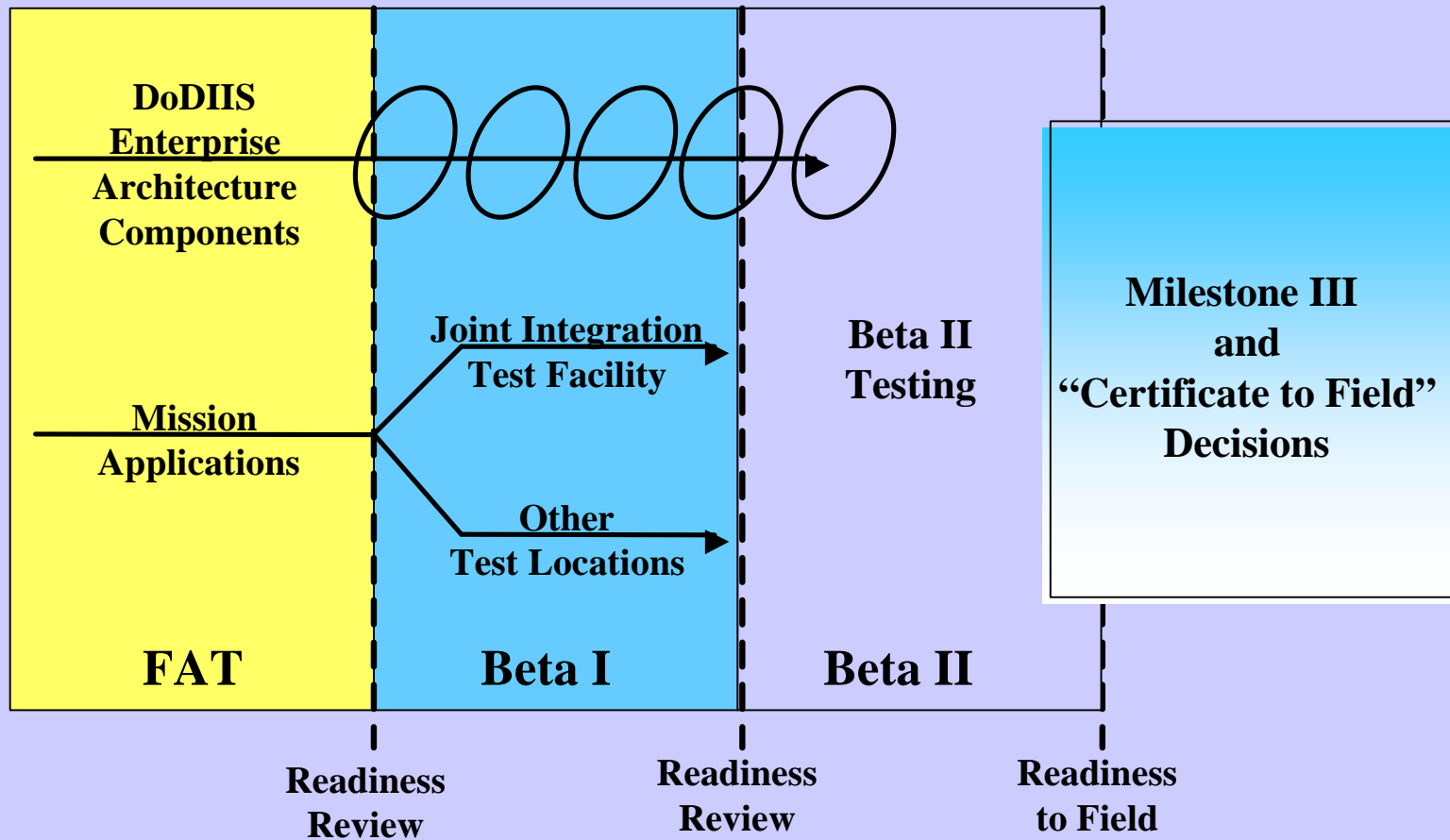
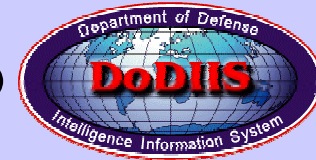
## Requirements (cont)



- **Testing Process**
  - Functional testing by PM and checked at Beta I/II
  - Testing decisions (e.g., testing of COTS products) must be made as early in life cycle as possible
  - Product must conform to constraints defined by DODIIS Profile
  - Developer will report status of Unit, Program, and Software Integration testing to government
- **Others**
  - Program Managers and LCM staff must be Acquisition Level 3 Certified
  - Contractors should be ISO 9001 certified
  - Training evaluation should be closely coupled to Beta I test period
  - Beta II (Operational) testing should be an independent assessment or by OTA

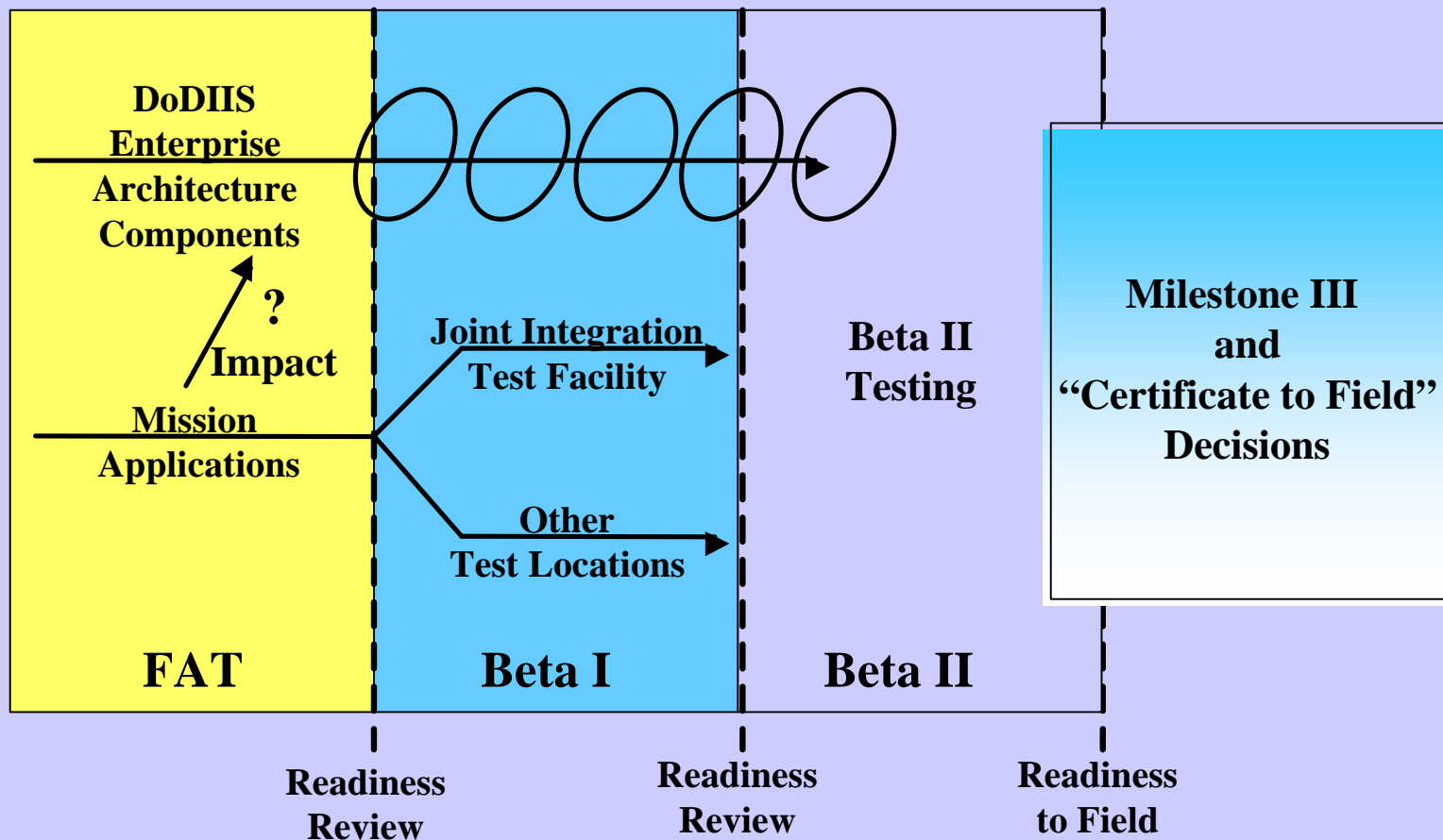
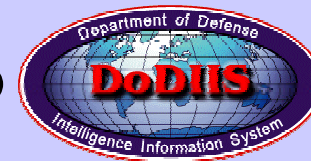


# Paths to Fielding





# Paths to Fielding





# Enterprise Test Environment

